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A STUDY OF FISH DIVERSITY OF BALAISUTI BEEL, KALGACHIA, BARPETA (ASSAM)

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The beels represent unique ecosystem with immense ecosystem services. Without evaluating potentials the beels are indiscriminately explored causing great depletion of the resources. The present investigation is the study of the BalaikhutiBeel (90°52'35.37" E to 90°52'35.37" E & 26°20'54.30" N to 26°21'26.54" N, msl: ca. 46 m; area 0.5 km²) of Barpeta with special reference to the piscian resources. Fishes are collected from 10 different spots of the beel twice every month from January to May 2017 using cast net of 3 m in length, 10 mm mesh size and circumference of 15 m. Fish catch (no. of each species) per effort is recorded and the frequency of occurrence, density, diversity, dominance and species richness are calculated. Further, gears used for fishing in the beel by the fishermen are also recorded. We recorded 49 species of fishes from the beel of which small size fishes constitute the majority part. The most abundant species recorded is *Puntius sophore*, followed by *Labeo calbasu* and *Amblypharyngodon mola*; while the least abundant species was *Mastacembalus armatus*. *Aspidoparia morar*, *Rasbora rasbora* and *Esomus danicus* showed 100% occurrence frequency. *Esomus danicus*, *Puntius sophore* and *Anabas testudineus* exhibit high density while very low density is displayed by *Mastacembalus armatus* and *Aorichthys seenghala*. The study also reveals a relatively high species diversity ($H' = 3.15$) of the beel and the dominance ($D = 0.03$) is found to be low, indicating a healthy system supporting species rich piscian fauna ($R = 5.41$). Threat to the ichthyofauna has been perceived as uncontrolled fishing throughout the year harvesting even the ripe females of the breeding season and fingerlings. Moreover, intense human activities in the shallow part of the beel and in the shoreline pose as a threat to the pristine environment of the beel. The presence of five exotic species in the natural system specifically the highly predatory *Clarias gariepinus* is also critical for the ecosystem